Enter this specification 10-28-07 MB

CATHETER WITH OUT-OF-PLANE CONFIGURATIONS

Cross Reference to Related Application

The present application is a continuation of the co-pending U.S. application Serial No. 08/764,745, filed December 12, 1996; which is a continuation in part of the then co-pending U.S. application Serial No. 07/834,007, filed February 11, 1992, since issued as U.S. Patent No. 5,304,131; which is a continuation in part of the then co-pending U.S. application Serial No. 07/730,120, filed July 15, 1991, since issued as U.S. Patent No. 5,290,229.

Statement Regarding Federally-sponsored Research/Development

Not applicable.

Reference to Microfiche Appendix

Not applicable.

Background of the Invention

This invention relates generally to medical devices, and more particularly to a catheter which can be formed, inside the human body, into a vast number of different shapes.

Selective catheterization of cerebral and visceral branch arteries is often difficult and at times impossible in some patients -- particularly older patients with very tortuous and ectatic vasculature. Successful catheterization sometimes requires multiple catheter exchanges for various shaped catheters. It is not uncommon to easily catheterize three of four vessels for a four vessel head study, only to find that the fourth vessel (generally the left or right carotid) requires an entirely different catheter shape and tip orientation. It would be desirable if one could easily and simply reshape the catheter and reorient the tip to direct it into the vessel orifice, instead of depending on several complex catheters that